

ABSTRACT

The manufacturing cost of earlier range-finding image sensors based upon measurement of reflection time of light was high, because
5 the earlier range-finding image sensors are manufactured by CCD and CMOS manufacturing procedures. To achieve a lower cost, it is preferable to add the least possible number of fabrication processes to the standard CMOS manufacturing procedures. The present invention provides a low-cost, high performance range-finding image
10 sensor by using the standard CMOS fabrication process or by adding a simple fabrication process thereto. An oxide film (3) is formed on a silicon substrate (20), and two photo-gate electrodes (1 and 2) for charge-transfer are provided on the oxide film. Floating diffusion layers (5 and 6) for taking charges out from a photodetector layer (4)
15 are provided at the ends of the oxide film, and on the outside thereof are provided a gate electrode for resetting and a diffusion layer for providing a reset voltage.